

CLAIMS

1. Pigments of silica-iron oxide characterised in that the silica component (SiO_2) is obtained from microsilica or fumed silica, having a ratio of silica that ranges between 70 and 98% by weight, while the ratio of iron oxide ranges between 2 and 30% by weight.

2. A process for obtaining pigments of claim 1, characterised in that it comprises the following steps:

- 10 a) Blending the majority and minority raw materials,
- b) Agglomerating of the resulting blend of raw materials from the previous stage
- 15 c) Calcinating in an oven the agglomerated blend obtained in the previous stage with a thermal cycle at temperatures comprised between 800 and 1300° C, with residence times ranging between 1 and 24 h,
- d) Blending the pigment obtained in the previous calcination step,
- 20 e) Reducing the particle size of the obtained blend of pigment,
- f) Final blending with control of the chromaticity coordinates of the obtained pigment,
- g) Dosing and packaging.

25 3. A process according to claim 2, in which stages a) and/or b) may be carried out in dry conditions.

4. A process according to claim 2, in which stages a) and/or b) may be carried out in wet conditions.

5. A process according to claims 2 and 3, in which the blend from stage a) is carried out by milling.

6. A process according to claims 2 and 4, in which the mixture from stage a) is carried out by dispersion, preferably in water.

7. A process according to claims 2, 3 and 5, in which the agglomeration of stage b) consists of a granulation.

8. A process according to claims 2, 4 and 6, in which the agglomeration of stage b) consists of drying by

2022220 62041660

written description
2-11

SUB A1

SUB A2

atomisation.

9. A process according to claims 2 to 8, in which optionally, before stage c) there is a prior pre-calcination step.

10. A process according to claims 2 to 9, in which optionally, after stage c), there is a cooling step, prior to blending of the resulting pigment.

11. A process according to claims 2 to 10, in which step e) preferably consists of grinding or milling.

12. Pigments obtained according to the process of claims 2 to 11.

13. Use of the microsilica as a source of SiO_2 in the manufacture of inorganic pigments and/or colorants.

14. Use according to claim 13, characterised in that the source of silica is obtained from condensation of gases evolved during the manufacture of silicon metal and/or alloys thereof.

15. Use of the pigments of claims 1 or 12, alone or in blends with other materials, as integrants in the compositions of enamels, glasses, ceramics, cements, plastics, laminates, graphic inks and rubber.

16. Use of the pigments of claims 1 or 12, alone or in blends with other materials, in the surface decoration of enamels, glasses, ceramics, cements, plastics, laminates, graphic inks and rubber.

17. A ceramic product characterised in that it includes in its composition the pigments of claims 1 or 12.

18. A ceramic product in accordance with claim 17, characterised in that it consists of a porcelain stoneware.

19. A porcelain stoneware in accordance with claim 18, characterised in that it shows chromatic coordinates (Hunter-LAB) in the following ranges: $L = 36-46$, $a = 10-18$ and $b = 7-11$, for a percentage pigment of 2% that gives a colour of red-orange tone.

Sub A2

20220329 032202

Sub A3

112 2nd